We claim:

1. A hydraulic system of automatic transmission for draining fluid from a portion of the hydraulic system, comprising:

a fluid source for supplying fluid to the system;

a component of the system through which hydraulic fluid flows;

a circuit hydraulically connecting the fluid source to the component;

a reservoir for containing fluid at relatively low pressure; and

a valve hydraulically connected by the circuit to the component, the fluid source and the reservoir, the valve having a first state at which a hydraulic connection through the valve between the component and the reservoir is closed, and a second state at which a hydraulic connection through the valve between the component and the reservoir is open.

2. The system of claim 1, wherein the valve further comprises:

a chamber hydraulically connected to the circuit, the fluid source, and the reservoir through mutually spaced ports in the chamber;

a spool moveable in the chamber, including a first land on which a pressure force tending to move the spool to the first state is produced in response to fluid pressure, and a second land for opening and closing communication between the component and the reservoir as the spool moves in the chamber; and

a spring for biasing the spool to the second state in opposition to the pressure force.

3. The system of claim 1, wherein the component comprises an oil cooler for removing heat from the fluid, and the system further comprises:

a lubrication circuit hydraulically connected to the circuit; and

a second valve hydraulically connected to the fluid source and the lubrication circuit, disposed in parallel flow relation with the oil cooler, for alternately opening

and closing a connection between the fluid source and the lubrication circuit through the second valve in response to a temperature of the fluid.

4. The system of claim 1, further comprising:

a lubrication circuit hydraulically connected to the circuit; and

a second valve hydraulically connected to the fluid source and the lubrication circuit, disposed in parallel flow relation with the component, for closing a connection between the fluid source and the lubrication circuit through the second valve when a temperature of the fluid is equal to or greater than a predetermined temperature, and for opening the connection between the fluid source and the lubrication circuit through the second valve when the temperature of the fluid is less than the predetermined temperature.

5. The system of claim 1, wherein the component comprises an oil cooler for removing heat from the fluid, and the system further comprises:

a lubrication circuit hydraulically connected to the circuit;

a second valve hydraulically connected to the fluid source and the lubrication circuit, disposed in parallel flow relation with the oil cooler, for alternately opening and closing a connection between the fluid source and the lubrication circuit through the second valve in response to a temperature of the fluid;

a torque converter including a bladed impeller wheel and a bladed turbine wheel hydrokinetically coupled to the impeller;

a source of converter apply pressure for supplying pressurized fluid to the torque converter; and

a first hydraulic path connecting the valve and the source of converter apply pressure; and

wherein the valve closes the first hydraulic path against the passage of fluid from the torque converter when the valve is in the second state.

6. The system of claim 1, wherein the component comprises an oil cooler for removing heat from the fluid, and the system further comprises:

a lubrication circuit hydraulically connected to the circuit;

a second valve hydraulically connected to the fluid source and the lubrication circuit, disposed in parallel flow relation with the oil cooler, for alternately opening and closing a connection between the fluid source and the lubrication circuit through the second valve in response to a temperature of the fluid;

a torque converter including a bladed impeller wheel, a bladed turbine wheel hydrokinetically coupled to the impeller, and a bypass clutch that is engaged and disengaged in response to the differential pressure across the bypass clutch;

a source of converter apply pressure for supplying pressurized fluid to the torque converter tending to engage the bypass clutch;

a first hydraulic path connecting the valve and the source of converter apply pressure;

a source of converter release pressure supplied to the torque converter tending to disengage the bypass clutch; and

a second hydraulic path connecting the valve and the source of converter release pressure;

wherein the valve closes the first hydraulic path and second hydraulic path against the passage of fluid from the torque converter when the valve is in the second state.

7. A hydraulic system for an automatic transmission of a motor vehicle having a power source, for draining fluid from a component hydraulically connected to the system, comprising:

a fluid source supplying pressurized fluid to the system when the power source is operating;

a reservoir located at a first elevation, for containing fluid at relatively low pressure;

an oil cooler located at a higher elevation than the first elevation;

a circuit hydraulically connecting the fluid source to the cooler;

a valve hydraulically connected by the circuit to the cooler, the fluid source, and the reservoir, the valve having a first state when the power source is operating, at which state a hydraulic connection through the valve between cooler and the reservoir is closed, and a second state when the power source is not operating, at which second state a hydraulic connection through the valve between the cooler and the reservoir is open.

8. The system of claim 7, wherein the valve further comprises:

a chamber hydraulically connected to the circuit, the fluid source, and the reservoir through mutually spaced ports in the chamber;

a spool moveable in the chamber, including a first land on which a pressure force tending to move the spool to the first state is produced in response to fluid pressure, and a second land for opening and closing communication between the cooler and the reservoir as the spool moves in the chamber; and

a spring for biasing the spool to the second state in opposition to the pressure force.

9. The system of claim 7, further comprising:

a lubrication circuit hydraulically connected to the circuit; and

a second valve hydraulically connected to the fluid source and the lubrication circuit, disposed in parallel flow relation with the cooler, for alternately opening and closing a connection between the fluid source and the lubrication circuit through the second valve in response to a temperature of the fluid.

10. The system of claim 1, further comprising:

a lubrication circuit hydraulically connected to the circuit; and

a second valve hydraulically connected to the fluid source and the lubrication circuit, disposed in parallel flow relation with the cooler, for closing a connection between the fluid source and the lubrication circuit through the second valve when a temperature of the fluid is equal to or greater than a predetermined temperature, and for opening the connection between the fluid source and the lubrication circuit through the second valve when the temperature of the fluid is less than the predetermined temperature.

11. The system of claim 7, further comprising:

a lubrication circuit hydraulically connected to the circuit;

a second valve hydraulically connected to the fluid source and the lubrication circuit, disposed in parallel flow relation with the oil cooler, for alternately opening and closing a connection between the fluid source and the lubrication circuit through the second valve in response to a temperature of the fluid;

a torque converter including a bladed impeller wheel and a bladed turbine wheel hydrokinetically coupled to the impeller;

a source of converter apply pressure for supplying pressurized fluid to the torque converter; and

a first hydraulic path connecting the valve and the source of converter apply pressure;

wherein the valve closes the first hydraulic path against the passage of fluid from the torque converter when the valve is in the second state.

12. The system of claim 7, further comprising:

a lubrication circuit hydraulically connected to the circuit;

a second valve hydraulically connected to the fluid source and the lubrication circuit, disposed in parallel flow relation with the oil cooler, for alternately opening and closing a connection between the fluid source and the lubrication circuit through the second valve in response to a temperature of the fluid;

a torque converter including a bladed impeller wheel, a bladed turbine wheel hydrokinetically coupled to the impeller, and bypass clutch that is engaged and disengaged in response to the differential pressure across the bypass clutch;

a source of converter apply pressure for supplying pressurized fluid to the torque converter tending to engage the bypass clutch;

a first hydraulic path connecting the valve and the source of converter apply pressure;

a source of converter release pressure supplied to the torque converter tending to disengage the bypass clutch; and

a second hydraulic path connecting the valve and the source of converter release pressure;

wherein the valve closes the first hydraulic path and second hydraulic path against the passage of fluid from the torque converter when the valve is in the second state.